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covery by Jejunio-Ileostomy
with Senn's Bone Plates

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susception and Sloughing of the
Intussusceptum.*

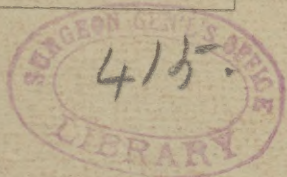
BY

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YALE UNIVERSITY, AND SURGEON TO THE CON-
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COMPLETE AND PERMANENT RECOVERY BY
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IN INTESTINAL OBSTRUCTION DUE TO
INTUSSUSCEPTION AND SLOUGHING OF THE INTUSSUSCEPTUM.

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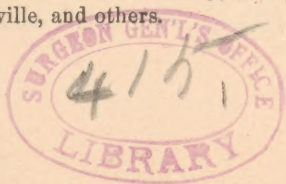
On August 16, 1889, I was summoned to visit a boy, fifteen years of age, living on a farm in Montville, Conn. I found that he was suffering from very severe chronic obstruction (stenosis) of the small intestine.

The history of the case was as follows :

Until October 2, 1888, he had been strong and in perfect health, but on that day, while wrestling, was attacked by an extremely acute pain in his abdomen, quickly followed by severe vomiting and obstinate constipation, which persisted for five days. On the fifth or sixth day his bowels were moved, and the vomiting became less severe. During the next few weeks the emesis was less frequent, the pain became intermittent, although severe, and the constipation gradually changed to diarrhœa.

On November 1st (or soon after) a soft, fleshy mass was noticed in one of his stools.

During the ten months preceding my visit and operation he had been under the care of Dr. Smith and Dr. Bishop, of Norwich, Dr. Matthewson, of Montville, and others.



During these ten months he was confined to bed much of the time, and there were occasional attacks of vomiting and from three to seven light-colored liquid stools daily, but free from blood. The abdomen was much distended and tympanitic; his appetite was poor and his tongue coated.

He became much emaciated and had night sweats, but no elevation of temperature. During these ten months he suffered from severe attacks of abdominal pain, recurring about every twenty to forty minutes night and day, and lasting from three to five minutes. Each of these attacks of pain was preceded or accompanied by such violent intestinal peristalsis that the contour of the intestine formed very prominent visible ridges in the abdominal wall.

In each attack the severe pain commenced after the violent peristalsis had lasted one or two minutes, and disappeared suddenly when, three to five minutes later, there was a loud sound as of gas and liquid being forced through a small orifice. Immediately afterward the pain and peristalsis would cease, and the patient become comfortable.

The pain was sometimes above the umbilicus and at other times below or to the right or left, and not confined to any one point. All his symptoms were gradually becoming more severe. During my visit on August 16, 1889, I was able to observe a number of these attacks, and it appeared probable (as the laparotomy next day proved true) that they were due to nearly complete obstruction in the small intestine. The regularly recurring, violent, and painful peristalsis was the effort of the intestine to force its contents through a very small aperture. Laparotomy being indicated, I operated on the following day (August 17, 1889), assisted by Dr. Smith, of Norwich, Dr. Matthewson, of Montville, and Dr. R. S. Bradley, of New Haven.

The incision extended from the umbilicus to the pubes. I found it impossible to locate the obstruction without removing the small intestines from the abdomen, and, while doing so, protected them with napkins wrung out of hot Thiersch's solution. The obstruction was found at a point near the junction of the upper and middle thirds of the small intestine.

As shown in the accompanying illustration, the small intestine, *b* to *c*, was so extremely contracted at *a* that its diameter was only about a quarter of an inch, and at that point it was firmly bound down by a strong old band of adhesion, *a*, to the wall of an adjacent loop of intestine, *d*.



All of the portion of intestine *b* above the obstruction *a* was distended to about three times its normal caliber and filled with gas and liquid feces. All of the portion of intestine *c* below the obstruction was empty, contracted, and flaccid.

The obstruction was evidently an old one, and it was plainly impossible to restore the caliber of the bowel at that point. The best plan was evidently to establish an intestinal anastomosis, as suggested by Professor Senn. After locating the obstruction, it was found impossible to return the rest of the intestine into the abdomen, owing to its distention above the obstruction.

I therefore made a linear incision, an inch and a half long, at *k* above the obstruction, and emptied all of the contents of the bowel, consisting of about a quart of yellow liquid feces and a large amount of gas, into a pan. The intestine was then

easily replaced within the abdomen. A Senn's perforated decalcified-bone plate was then introduced through the incision in the bowel at *k*, and another bone plate was introduced below the obstruction through an incision at *p*. The bone plates were approximated after scarifying the serous surfaces, and about twelve Lembert sutures were introduced around the circumference of the plates. The intestine was then cleansed and the abdomen flushed with hot Thiersch's solution, and the abdomen closed.

His recovery was rapid, perfect, and permanent. Although his temperature was taken every two to four hours for eight days, it only once went above normal, and then only transiently touched 100.2° on the second day. I did not visit him after the sixth day, the nurse was discharged on the eighth, the patient sat up about the tenth, and was down stairs about the sixteenth or eighteenth day. Dr. Smith made a few visits afterward. The patient had a large normal stool five days after the operation, and his bowels moved regularly afterward. All stools were examined for traces of the bone plates. Nine days after the operation the remains of a bone plate (probably the distal one) were found in one of the stools. It was of only about a quarter of the thickness, half of the width, and two thirds of the length of the original plate, and was so soft as to require careful handling. A few days later, barely perceptible remnants of the other plate were evacuated, and none subsequently. From that time he quickly and steadily improved in health in every respect, and resumed his work on the farm. It is now *fifteen months* since the operation, and he is in every way enjoying good health.

The boy is strong and able to do ordinary work. There is every indication that his recovery is absolutely complete and permanent. I believe that this is the most successful case of the kind thus far on record. It seems evident that the commencement of his disease on October 2, 1888, was an intussusception (at point *a* in the diagram), that the soft, fleshy mass passed in one of his stools about a month later was the intussusceptum, which had sloughed out, and that the subsequent stenosis and adhesions were results of that process.

My experience in this case and in another, in which I performed gastro-enterostomy with decalcified-bone plates for cancerous stenosis of the pylorus, convinces me that the bone plates are much to be preferred to the various catgut substitutes (rings and mats) and all other substitutes which have been suggested. They are admirably adapted for the purpose and need no improvement.

